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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/612,255

07/02/2003

David R. Hall

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38046

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12/14/2005

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EXAMINER

YACOB, SISAY

ART UNIT

PAPER NUMBER

2635

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/612,255

Applicant(s)

HALL ET AL.

Examiner

Sisay Yacob

Art Unit

2635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

DETAILED ACTION

1 The application of Hall et al., "Transmission element for downhole drilling components" filed on July 02, 2003 been examined.

Claims 1- 21 are pending

***Claim Rejections - 35 USC § 102***

2 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3 Claim 1-21 are rejected under 35 U.S.C. 102(e) as being anticipated by US patent of Boyle et al., (6,866,306).

Art Unit: 2635

4 As to claims 1 and 11, Boyle et al., discloses a transmission element for transmitting information between downhole tools located on a drill string (Col. 1, lines 9-12), the transmission element comprising an annular core constructed of a magnetically-conductive material (Col. 2, lines 41-67) at least one conductor coiled around the annular core and electrically isolated therefrom (Col. 4, lines 29-31; Item 41 of figures 1 and 2), an annular housing constructed of an electrically conductive material (Item 54 of figure 1), and partially enclosing the annular core and the at least one conductor (Item 58 of figure 1), the annular housing further shaped to reside with an annular recess formed into a surface of a downhole tool (Col. 4, lines 23-67; See figure 1), and being electrically insulated from the surface thereof (Col. 6, lines 16-20), a biasing member to effect a bias between the annular housing and the annular recess (Item 62 of figure 1), urging the annular housing in a direction substantially perpendicular to the surface (Col. 5, lines 36-38).

5 As to claims 2 and 14, the transmission element of claims 1 and 11, further, Boyle et al., discloses a retention mechanism for retaining the annular housing within an annular recess (See figure and 2).

As to claim 3, the transmission element of claim 1, further, Boyle et al., discloses the at least one conductor is coated with an electrically insulating material (Col. 6, lines 16-20).

Art Unit: 2635

6 As to claim 4, the transmission element of claim 1, further, Boyle et al., discloses the surface is selected from the group consisting of a secondary shoulder of a pin end (Item 22 of figure 1), a secondary shoulder of a box end (Item 21 of figure 1), a primary shoulder of a pin end (Item 61 of figure 1), and a primary shoulder of a box end of a downhole tool (Item 42 of figure 1).

7 As to claims 5 and 15, the transmission element of claims 1 and 11, further, Boyle et al., discloses the annular housing is at least partially exposed to the central bore of a downhole tool (Col. lines 44- 49).

8 As to claim 6, the transmission element of claim 1, further, Boyle et al., discloses the biasing member is selected from the group consisting of a metal spring, an elastomeric material, and an elastomeric-like material (Col. 7, lines 6-16; Col. 8, lines 13-16; Item 26 of figures 4 and 5).

9 As to claim 7, the transmission element of claim 1, further, Boyle et al., discloses the annular core is characterized by an elongate cross-section (See figure 1 and 2).

10 As to claim 8, the transmission element of claim 1, further, Boyle et al., discloses the annular core has a cross-section characterized by a height at least twice that of its width (Col. 3, lines 48-50; See figure 8).

11 As to claim 9, the transmission element of claim 1, further, Boyle et al., discloses the annular housing that comprises a shoulder formed along the exterior thereof, configured to engage a corresponding shoulder formed within an annular recess (Col. 5, lines 40-44; Items 71 and 72 of figure 4).

12 As to claim 10, the transmission element of claim 1, further, Boyle et al., discloses the annular housing is configured to make electrical contact with a second annular housing located on a second transmission element, and wherein the contact surfaces of each annular housing are formed to be self-cleaning (Col. 5, lines 40-46; See figure 4).

13 As to claim 12, the transmission element of claim 11, further, Boyle et al., discloses the means for effecting a bias between the annular housing and the annular recess is due to radial tension between surfaces of the annular housing and an annular recess (Col. 7, lines 35-67; See figure 9).

14 As to claim 13, the transmission element of claim 12, further, Boyle et al., discloses the radial tension between the surfaces of the annular housing and the annular recess are due to tension along at least one of the outside diameters, the inside diameters, and a combination thereof of the annular housing and annular recess (Col. 8, lines 16-28; See figure 10).

15 As to claim 16, Boyle et al., discloses an apparatus for transmitting information between downhole tools located on a drill string (Col. 1, lines 9-12), the apparatus comprising a first transmission element (Item 58 of figure 1), mounted to the end of a first downhole tool (Item 62 of figure 1), the first transmission element comprising a first contact (Item 22 of figure 1), a second transmission element (Item 38 of figure 1), mounted to the end of a second downhole tool connectable to the first downhole tool (Item 42 of figure 1), the second transmission element comprising a second contact configured to physically contact the first contact upon connecting the first and second downhole tools (See figures 2-4), and an isolation mechanism configured to isolate the first and second contacts from an adjacent environment when contact occurs between the first and second contacts (Col. 4, lines 29-31, 44-47; Items 41 and 61 of figure 1).

16 As to claim 17, the apparatus of claim 16, further, Boyle et al., discloses the isolation mechanism further comprises a first isolation component connected to the first transmission element (Item 133 of figure 10), and a second isolation component connected to the second transmission element (Item 161 of figure 10), the second isolation mechanism configured to engage the first isolation mechanism upon connecting the first and second downhole tools (See figure 1-4 and 10).

17 As to claim 18, the apparatus of claim 17, further, Boyle et al., discloses the first and second isolation components are annular housings having substantially U-shaped

Art Unit: 2635

cross-sections and are formed to reside within annular recesses formed in the first and second downhole tools, respectively (See figure 9 and 10).

18 As to claim 19, the apparatus of claim 18, further, Boyle et al., discloses the first and second contacts are conductive rings formed to reside within the first and second annular housings, respectively (See figure 4 and 10).

19 As to claim 20, the apparatus of claim 19, further, Boyle et al., discloses the conductive rings are electrically insulated from the first and second annular housings, respectively (Col. 6, lines 22-28).

20 As to claim 21, the apparatus of claim 19, further, Boyle et al., discloses the conductive rings are coupled to the first and second annular housings, respectively, by a at least one of a resilient, an elastomeric, and an elastomeric-like material (Col. 7, lines 6-16; Col. 8, lines 13-16; Item 26 of figures 4 and 5).

### ***Conclusion***

21 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sisay Yacob whose telephone number is (571) 272-8562. The examiner can normally be reached on Monday through Friday 8:00 AM - 4:30 PM.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on (571) 272-3068. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sisay Yacob

12/09/2005

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